

Comparing Resident and Visitor Perceptions of Forest Health Management Strategies in Mt. Robson Provincial Park

Pamela A. Wright, Ph.D.

Kate Reade, M.Sc.



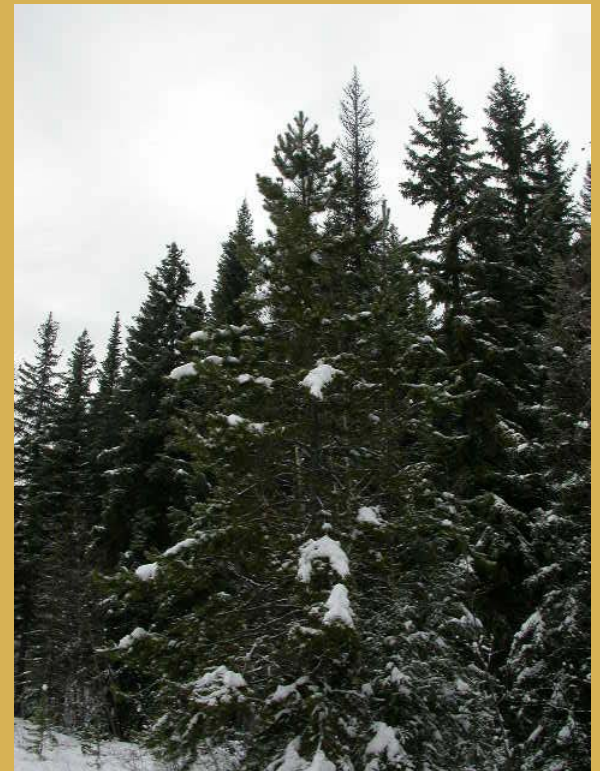
Context

- Forest health issues abound (from MPB on)
- Mt. Robson is an exemplar of these issues
- The debate over whether, and what type, of active management to consider is complicated
- Active management is complex and messy
- Communities are immersed in these issues and the corresponding effects on amenity, property and ecological values



What do we already know?

- To date – most research on resident and tourist attitudes towards fire (and fire outside PA's)
 - Key themes emerged from this include:
 - Proximity to fire
 - Concerns about effects of smoke
 - Trust in info sources
 - Previous experience with fire
 - Level of information provided



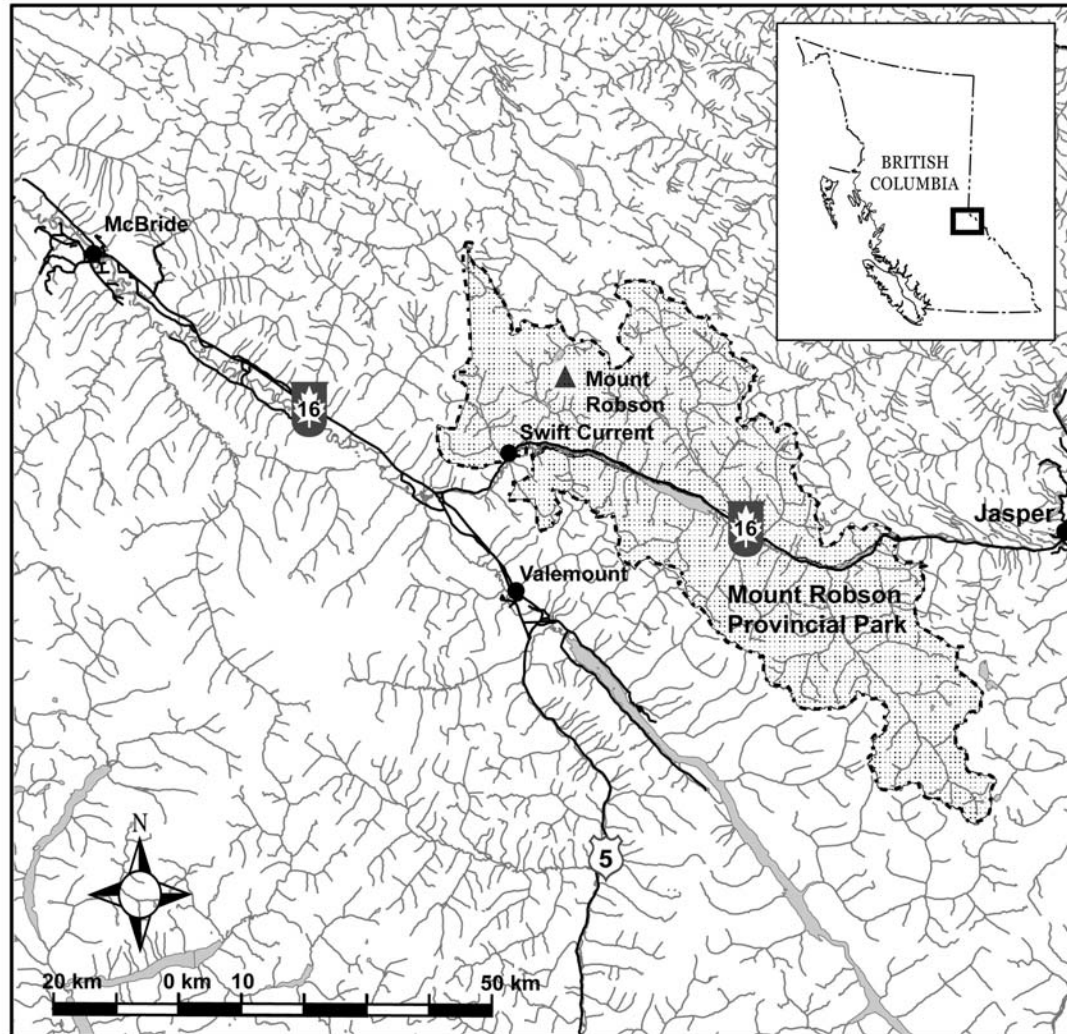
What we know...

- Limited ‘bug’ research
 - Keji (pale-wing gray moth) visitors most concerned about
 - Direct impacts to trees
 - Species at risk
 - Risk of fire and safety
 - Impacts on other birds, insects and wildlife
 - Natural forest processes
 - Banff/Kootenay MPB resident study
 - MPB has high issue salience
 - Respondents had low knowledge levels of, and attitudes towards
 - Support active management specifically tree removal, thinning, prescribed burning targeted at current infestations

Mt. Robson/RV

- BC's 2nd oldest prov park
- Berg lake trail – huge draw (not specific MPB area)
- Surrounding communities small (McBride 660; Valemount 1018; Swift Current <100)
- Significant management planning for forest health:
 - Ecosystem Mgmt Plan
 - Provincial MPB Assessment
 - Forest Health Strategy
- Propose and support approaches including:
 - Veg thinning, prescribed burns, selective tree removal
 - Purposes to re-establish natural processes, reduce risks and mitigate future infestations

Mt. Robson Provincial Park and the Robson Valley



Summary of some proposed and completed management actions for Mount Robson Provincial Park

Treatment Type	Site	Area	Forest Cover (% pine)	Average Stand Age
Prescribed Burning	Moose Lake (2004)	2,887 hectares	62%	103 years
	Swiftcurrent	2,200 hectares	56%	158 years
	Yellowhead West	3,100 hectares	66%	109 years
	Upper Fraser	650 hectares	75%	183 years
	Total	8,837 hectares		
FireSmart Tree Removal (Fire preparation only)	Lucerne Pilot (2004)	39 hectares	87%	130 years
	Swiftcurrent	117 hectares	30%	88 years
	Headquarters	188 hectares	50%	105 years
	Total	344 hectares		
MPB Tree Removal (single tree green attack only)	Yellowhead West to the BC Alberta border	Green attack only within 6,945 hectares	77%	121 years
	Total	6,945 hectares treated area		

Mt. Robson Prescribed Burn



The issue

- Engaging stakeholders in response to management challenges requires understanding of attitudes towards active management techniques
- Various publics appear to have different levels of understanding, attitudes, and perceptions about forest health management
- Mgmt in Mt. Robson is source of contention between surrounding communities and MOE
- Has been a history of communication about these mgmt activities (by MOE – and others)
- Effective communications confounded by:
 - Differing, and at times conflicting, mgmt objectives of different organizations
 - Elimination of most communication and extension activities within BC parks
 - Lack of analysis of community and visitor understanding and perceptions

Study purpose

- We compared data regarding attitudes and perceptions towards forest health management of both residents and visitors towards forest health management
- Particularly perspectives towards active management in general, and 2 dominant techniques: prescribed fires and tree removals



Methods

- Two surveys (2006) with matched questions:
 - 1st K. Reade's thesis survey of RV residents
 - 265 surveys for full time residents (no non-response bias)
 - 2nd Berg Lake visitor survey
 - 236 surveys to overnight hikers (no non-response bias)

Common sample survey questions

Q. 17. There is a range of different reasons why managers may consider using fires or selective tree removal in the park. For each of the following reasons, please indicate whether you think the method is APPROPRIATE, SOMETIMES APPROPRIATE, INAPPROPRIATE or UNSURE.

	APPROPRIATE	SOMETIMES APPROPRIATE	IN-APPROPRIATE	UNSURE
To improve public safety around trails and campgrounds from falling dead trees.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
To protect park facilities and private property from uncontrolled fire and/or falling dead trees.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
To reduce the amount of forest fuels (dry trees) to help prevent catastrophic forest fires (fires that burn hotter and larger than natural).....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
To restore wildlife habitat and diversity.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
To reduce the spread of forest insects and disease (e.g., Mountain Pine Beetle) to other adjacent areas.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Rationale for Active Mgmt

Q. 18. Please indicate whether you agree or disagree with each of the following items. (Please check one box for each item)

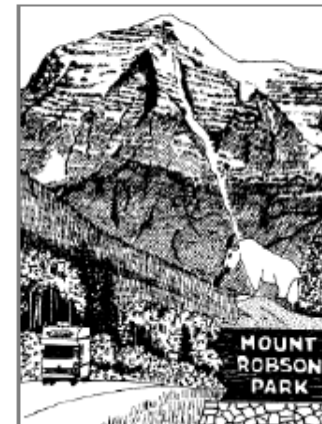
	STRONGLY AGREE	AGREE	NEUTRAL	DISAGREE	STRONGLY DISAGREE	UNSURE
Prescribed burning improves wildlife habitat and diversity.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I don't like the look after a prescribed burn	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
As a management tool prescribed burning best mimics nature.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Prescribed burning is unnecessary as nature does fine without human Intervention.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Smoke causes health problems for a member of my household.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The use of heavy equipment is acceptable for selective tree removal.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Smoke from fires can negatively affect tourism.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Prescribed burning damages trees.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Attitudes towards fire/ Selective tree removal

Mount Robson Provincial Park - Berg Lake Area

Does it meet your needs?

A Survey of Provincial Park Visitors



Residents larger suite of questions

Results

- Perceptions of active management
- Rationale for active management
- Dominant themes regarding active management



Comparison of visitor and resident perceptions of active management

<p>Please indicate whether you agree or disagree with each of the following items</p> <p>1 = Strongly Disagree to 5 = Strongly Agree</p>	<p>BLT Visitors (n=223)</p>	<p>RVResidents (n=265)</p>
	<p>Mean (Rank)</p>	<p>Mean (Rank)</p>
Smoke causes health problems for a member of my household	2.56 (12)	*2.92 (9)
Prescribed burning damages trees	2.59 (11)	*3.15 (7)
Prescribed burning is unnecessary as nature does fine without human intervention	2.60 (10)	2.69 (11)
Trees should be harvested rather than burned	2.63 (9)	*3.34 (3)
The use of heavy equipment is acceptable for selective tree removal	2.73 (8)	2.72 (12)
I worry prescribed burns will get out of control	2.93 (7)	*3.20 (5)
I don't like the look after a prescribed burn	3.06 (6)	3.17 (6)
As a management tool prescribed burning best mimics nature	3.32 (5)	*2.95 (8)
Smoke from fires can negatively affect tourism	3.33 (4)	3.27 (4)
Prescribed burning improves wildlife habitat and diversity	3.47 (3)	*2.88 (10)
BC Parks should provide more information on what ecosystem management activities are being proposed in the park	3.64 (2)	3.50 (1)
Any tree removal undertaken in the park should be done to minimize disturbance to the soil and remaining vegetation	4.19 (1)	*3.37 (2)

Comparison of visitor and resident perceived appropriateness of various rationale for active management

All rationale were generally supported but important differences

Never Appropriate (1) to Appropriate (3)	BLT Visitors (n=223)	RV Residents (n=265)
	Mean (Rank)	Mean (Rank)
To protect park facilities and private property from uncontrolled fire and or falling dead trees	2.32 (5)	*2.60 (2)
To reduce the amount of forest fuels (dry trees) to help prevent catastrophic forest fires	2.33 (4)	2.44 (4)
To reduce the spread of forest insects and disease (e.g. Mt. Pine Beetle) to other adjacent areas	2.40 (3)	2.50 (3)
To improve public safety around trails & campgrounds from falling dead trees	2.43 (2)	*2.61 (1)
To restore wildlife habitat and diversity	2.50 (1)	*2.34 (5)

Dominant themes on active management

- **Literature** (Brunson and Evans, 2005; Weisshaupt et al., 2005; Vogt et al., 2005; Winter et al., 2004; and McCaffrey, 2004) identified key themes on active management
- Independent factor analysis only on common items
- Four factors/themes for BLT visitors and 3 for residents
- Then did combined factor analysis (minor move in items)
 - Ecological burning
 - Harvesting acceptable
 - Prescribed burning concerns

Comparison of visitors and residents attitudes towards major themes

Factors	BLT Visitors (n=223)	RV Residents (n=265)
	Mean	Mean
Ecological burning	3.19	*2.92
Harvesting acceptable	3.21	3.01
Prescribed burning concerns	2.73	*3.15

Discussion – Context and Experience for Visitors

- If folks support use of active management – what rationale was most appropriate?
 - Visitors more ecological rationale (consistent with Keji)
 - Sociodemo variables played limited role in explaining perceptions
- Visitors concerned with harvesting as slippery slope (to commercial logging)
 - they visit largely for natural experiences
 - motivation more consistent with mgmt techniques perceived as providing ecological benefits

Discussion – Context and Experience for Residents

- Context (Kneeshaw) influences
 - Residents generally unfavorable towards burning and didn't agree with benefits re: improving wildlife habitat

“I feel that areas that are selected for a prescribed burn should be selective logged first to get out the economic benefit and reduce changes of it getting away”

“Selective tree removal is the only way to rid the forest of fire damaged and insect damaged trees”

“Look at Jasper and the controlled burns they did....the devastation of the forest is not necessary”

“Burning is a complete waste”

“Recovering costs from log harvesting will assist in future management decisions around the park and its environment”

“[Burning only] when harvesting cannot be done feasibly”

Issues are more complex for residents

- Attitudes may be a result of residents' previous experiences with prescribed burns
- Amenity values for residents are strong but... forest industry is dominant employer (consistent with McFarlane in Columbia Valley)

“We have a mill in Valemount that would love to have trees to cut, to make money for their families, to give money back to the park, to make money within the community from logging in the park (selective only) instead of burning that money away”

- Greater understanding of beetle phenomena may also shape perspectives strongly

“Salvage can be economically practical, salvage and fall and burn to reduce the spread of beetle is a waste of time, the beetle is unstoppable.”

Communicating about complex management challenges

- No doubt that visitors and residents wanted more information on active management

“People would appreciate harvesting/burning if they had the information in front of them, and could see the benefits over the years”

“In this valley public input has a history of being ultimately ignored”

“Why don't they just try truthful, honest, open communications?”

- Trust in government has a significant effect on support for management

“Mt. Robson Park Management...they are the last people I would trust with decisions”

“I trust the local management at Mt Robson to make the decisions...at the local level there seems to be some common sense. Above that, I couldn't trust them to get beyond politics”

Residents and visitors hold differing perspectives

- Communication messaging should address all themes
- Park mgrs haven't tended to consult with visitors as much on these issues –strong place attachment of visitors to things like BLT – suggests they are interested and would like to be engaged
- Visitors have higher levels of trust
- Methods to communicate to park visitors are clearly different ... allows customization to each groups concerns
- Communications audit suggests that while residents are inundated with MPB info...specifics are infrequently communicated – more on:
 - Why, when and for what specific purposes (in protected areas)
 - Specific rationale for proposed actions
 - Explanations of why one technique chosen over another in specific situation
 - Communication about result and impact of initiative once completed

Further info: pwright@unbc.ca



Comparison of item loading in independent analysis of factors derived for visitors and residents and factors derived for combined analysis

	BLT Visitors (n=223)	RV Residents (n=265)	BLT & RV Residents
	Factors (1-4)*	Factors (1-3)*	
Prescribed burning improves wildlife habitat and diversity	1	1	1
As a management tool prescribed burning best mimics nature	1	1	1
The use of heavy equipment is acceptable for selective tree removal	1	-2	2
Smoke from fires can negatively affect tourism	3	2	3
Any tree removal undertaken in the park should be done to minimize disturbance to the soil and remaining vegetation	2	2	-2
BC Parks should provide more information on what ecosystem management activities are being proposed in the park	2	2	3
Prescribed burning damages trees	4	3	3
Trees should be harvested rather than burned	4	3	3
I don't like the look after a prescribed burn	3	3	3
Prescribed burning is unnecessary as nature does fine without human intervention	4	3	3